

September 1996 issue of the *Journal of the American Medical Association (JAMA)*, estimated the prevalence of two major types of dementia—Alzheimer's disease and vascular, or stroke-related, dementia—in about 3,700 Japanese-American men over age 70. These men are surviving members of the Honolulu Heart Program, a longitudinal study that began in 1965 to investigate cross-cultural differences in heart disease. All of the subjects lived in Hawaii at the study's outset.

Based on past reports, Alzheimer's disease is the predominant type of dementia in Western nations, while vascular dementia is predominant in Japan. "In our study, the men had almost as much vascular dementia as is found in Japanese men living in Japan," says Helen Petrovitch, an associate professor of medicine at the University of Hawaii and coauthor of the study. "However, they also had Alzheimer's disease at a rate almost equal to what is seen in the United States. It appears that something about moving from Japan led to an increase in Alzheimer's disease prevalence."

Martin calls the paper a landmark study and says that these data are the best yet available on whether the introduction of a new environment can make a difference in the occurrence of Alzheimer's disease. "The question for the future," says Martin, "is what factor in the environment is leading to more Alzheimer's. It is an extraordinarily important question, because if you can identify some contributing factor in the environment, then you may be able to use this knowledge to postpone the disease."

The *JAMA* study has been criticized for relying on comparisons among prevalence studies that used slightly different diagnostic criteria. The diagnosis of Alzheimer's disease is notoriously tricky. A definite diagnosis can only be made after death by autopsy of the brain. The clinical diagnosis of Alzheimer's disease in living patients is much more subjective. "When we make comparisons among surveys conducted by various researchers, part of the reason we find prevalence differences may be that the disease was just defined differently," says Petrovitch. This problem is now being addressed in ongoing research. "We have sister centers in Japan, Seattle, and Taiwan, and we're standardizing our diagnostic criteria and methods at all these sites," Petrovitch says. The results are expected to be available within a year. When they are, scientists should have a better base for comparing Alzheimer's disease across cultures.

A second study on a related topic appeared in the September 1996 issue of the *American Journal of Public Health*. Researchers in this study examined the occurrence of four neurodegenerative dis-

eases—Alzheimer's disease, presenile dementia, Parkinson's disease, and motor neuron disease—among members of various occupations. Lead author Paul Schulte, an epidemiologist at the National Institute for Occupational Safety and Health, and his colleagues examined death certificates from 27 states for the period 1982–1991. They looked for death certificates where one of the diseases was mentioned as either the main cause or a contributing cause of death. They also noted the occupations listed on those certificates.

The researchers then compared the actual proportion of deaths from a specific disease within a particular occupational group to the expected proportion—the proportion of deaths from that disease in all occupations. In a number of cases, the actual proportion exceeded the expected proportion by a statistically significant amount. More deaths than expected from all four diseases were found for teachers, medical personnel, machinists and machine operators, scientists, writers, designers, entertainers, and support and clerical workers. Excessive death rates from some diseases were also found for people with jobs involving pesticides, solvents, and electromagnetic fields. The bottom line, says Schulte, is that "these neurodegenerative diseases don't appear to be occurring randomly, but occur more frequently in some occupations than in others."

"This is just a preliminary investigation," cautions Schulte. In fact, there are serious limitations to the study. For one thing, death certificates provide only a rough measure of disease occurrence and usual occupation, and no information at all about other occupations and risk factors. Also, this type of study design is not able to clarify cause-and-effect relationships. The value of studies such as this one, Schulte says, "is [in] generating leads for future research."

"This kind of study is the very first step in a series of epidemiologic inquiries," says Gwen Collman, an environmental epidemiologist at the NIEHS. The *JAMA* study, with its

more sophisticated design, is a few steps farther along the trail. However, both studies are still some distance from showing which environmental factors are critical to the development of neurodegenerative diseases so that such information may be used to postpone or prevent these illnesses.

The Arctic Council

"The Arctic is an early warning system for our planet," said Sergio Marchi, Canadian minister of the environment, speaking at the 19 September 1996 inauguration of the Arctic council. The council is an intergovernmental forum designed to build consensus on issues of environment and sustainable development, as well as monitor pollution, disseminate information, and promote cooperation among the eight Arctic nations and their indigenous populations.

The Arctic Council evolved from the Arctic Environmental Protection Strategy (AEPS), established in 1991 to deal with the threat of polar pollution. In the summer of 1997, the Arctic Council will take over the work of the AEPS. Specifically, four committees of the AEPS will continue to work through the Arctic Council. The Arctic Monitoring and Assessment Program



Weighty issues. The newly established Arctic Council will deal with issues such as chemical contamination, sustainable development, and endangered species.

Painting a Healthier Picture

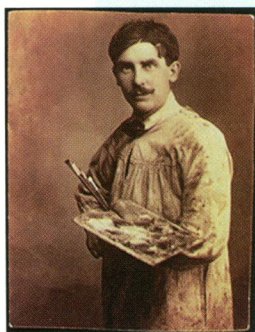
The health hazards associated with art may seem like an issue that affects only a few members of society—individuals who devote their lives to spending long hours in often small, poorly ventilated studios, often working with toxic materials, to create paintings and sculptures. Though the risk of exposure to toxic art materials may be greatest for professional artists, the many people who draw, paint, process photographs, or work with ceramics as a hobby can also be exposed to toxic chemicals and harmful dusts. In addition, many secondary schools offer art classes that use these same materials, and warnings such as the one issued by the U.S. Consumer Product Safety Commission in 1994 concerning lead in crayons serve as reminders that even children can be at risk.

Since 1977, the Center for Safety in the Arts (CSA) has supported research and disseminated information on the health hazards associated with both the visual and performing arts. Due to cuts in federal and state funding, the center discontinued many of its research and teaching programs in 1995, but its World Wide Web site located at <http://artsnet.heinz.cmu.edu:70/1/csa/> continues to be maintained and is one of the best and most readily available resources available on art-related health hazards.

The CSA site, which is maintained by the New York Foundation for the Arts, consists of articles, data sheets, and information on other resources that deal with the health risks faced by artists. To make it easier to determine what exposures a particular artist should be wary of, the center provides links to groups of papers divided into separate sections for visual artists, school children, museum curators, and performing artists. All of these can be accessed by following the Art Hazards Menu link on the center's main menu. Through this link, users can connect to another link labeled *Arts Hazards News* Issues. Published five times a year until the 1995 funding cuts, the *Arts Hazards News* was the CSA newsletter, providing artists with timely updates on the dangers they faced. Since publication has stopped, the CSA has added all back issues to their Web site, and these newsletters continue to be a good source of information on topics ranging from the safety of different materials to alternatives to using toxic chemicals.

Information on specific toxic materials such as solvents and flammables can be found by following the General Hazards Menu link on the center's main menu. Information on multiple chemical sensitivity, indoor air quality, and fire prevention can also be found here. The Precautions Menu link on the CSA home page takes the user to a list of links to documents on topics such as respirators, gloves, ventilation, and other means of avoiding contact with hazardous substances. The Laws & Regulations Menu link connects users to 15 articles that discuss National Institute for Occupational Safety and Health and Occupational Safety and Health Administration standards for workplace safety. The CSA home page also allows access to other related World Wide Web and gopher sites via two links on the main menu.

The last item on the CSA main menu is a link to an internal search engine that allows users to search for key words in the titles of documents on the CSA site.



Committee will assess the impact on health of contaminants including radionuclides, persistent organic toxics, and toxic metals. The Conservation of Arctic Flora and Fauna Committee will compile lists of endangered species and environmentally protected areas. The Protection of the Arctic Marine Environment Committee will survey land-based sources of pollution and establish guidelines for environmentally sound development including that of offshore oil drilling. Finally, the Emergency Prevention, Preparedness, and Response Committee will assess emergency notification systems and compile a risk matrix that identifies environmental risk factors and their significance.

According to Robert Senseney, polar affairs chief for the U.S. State Department, the Arctic Council is negotiating rules of procedure and guidelines for emergency preparedness and sustainable development. "Emphasis is on a proactive approach and involves consultation with industry, governments, and environmental groups," says Senseney. Voting members of the council are high-level government representatives from Canada, Denmark (voting also for Greenland), Finland, Iceland, Norway, the Russian Federation, Sweden, and the United States. There are also nonvoting permanent participants including the Inuit Circumpolar Conference; the Saami Council (Laplanders); and the Association of the Indigenous Minorities of the North, Siberia, and the Far East of the Russian Federation. The Arctic Council will not produce legally binding treaties or deal with military security.

Sierra Club Chairman Mike McCloskey says that danger signals such as problems in polar bear reproduction and evidence of tropical pesticides in Arctic ice have prompted requests for more research on pollution levels and transport in the Arctic. Environmental issues arising from events such as the opening of the Northwest Passage to maritime shipping and the development of renewable resources, says Mary Simon, Canadian ambassador for circumpolar affairs, have also contributed to the need for more funding of Arctic research. The council is also committed to improving the economic conditions, health, and cultural well-being of indigenous people, so it will work to develop policies on issues such as contamination of the food chain, maintaining animal populations, and sustaining indigenous lifestyles that depend on fishing and hunting.